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THREE NEW SPECIES OF POLYCHAETOUS ANNELIDS FROM CHESAPEAKE BAY

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THREE NEW SPECIES OF POLYCHAETOUS ANNELIDS FROM CHESAPEAKE BAY

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Among the polychaetous annelids collected in 1920–21 in the course of the biological survey of Chesapeake Bay, conducted by the United States Bureau of Fisheries, were found three undescribed species: Two representatives of the family Syllidae and one of the family Spionidae. The types have been deposited in the United States National Museum.

Family SYLLIDAE

PIONOSYLLIS MANCA, new species

Figure 1

The type is described from a female having a body width of 0.2 mm. and a total length of 2 mm. with 43 somites. The palps are fused dorsally for only a short distance, but ventrally they appear as two fleshy rounded lobes widely divergent from each other. The prostomium is three lobed (fig. 1, *a*), with the anterior lobe smaller than the lateral ones. Each anterior tentacle is attached just lateral to the depression between the corresponding lateral lobe and the anterior one and extends considerably beyond the palps. The median tentacle is attached near the posterior border of the prostomium and is long, slender, and of uniform width throughout. The lateral ones have narrow bases and expand into one or two flask-shaped enlargements beyond this. In some cases these have an appearance as if jointed (because of the constrictions between the enlargements), but this is entirely superficial. There are three pairs of eyes, the anterior ones very small and situated near the bases of the lateral tentacles, a larger pair near the posterior border of the prostomium, and a still larger pair a little anterior to these and near the lateral margin. Only the ventral tentacular cirri are present, and they resemble the lateral tentacles in form. The dorsal cirri also resemble the tentacular and are uniform in character throughout the body. The anal cirri are slender and longer than any of the dorsal cirri (fig. 1, *b*).

The body is of fairly uniform width throughout and is apparently a little more flattened anteriorly than posteriorly. Parapodia from the fourth to the seventh are somewhat more prominent than elsewhere, and their length is more than one-half the body diameter. Aside from a slight decrease in length toward the posterior end, later parapodia are similar to these in form. They all taper slightly toward the apex, which has a small posterior lip. The dorsal cirrus is considerably longer than the parapodium, and the ventral cirrus has the form of a blunt-ended elongated cone situated on the lower face of the parapodium at some distance from its base and not reaching to the parapodial apex.

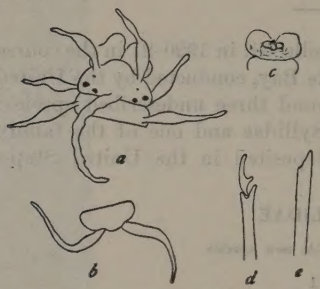

FIGURE 1.—*Pionosyllis manca*, new species: *a*, Anterior end, × 75; *b*, anal cirri, × 75; *c*, ventral view of proboscis with protruding tooth, × 68; *d*, compound seta, × 550; *e*, simple seta, × 550

The pharynx is dark brown, its margin darker brown and smooth, with a single large median tooth. Figure 1, *c*, shows this tooth just protruding through the mouth as seen from the ventral surface with the palps forming the background. The proventriculus is colorless and inconspicuous, extending through only about three somites.

Two forms of setae apparently occur in all somites, cases where the simple ones are absent being evidently due to accident. Both kinds are long and very slender. The compound form (fig. 1, *d*) has a small terminal joint without any lateral denticulations. The simple seta is slightly heavier than the compound and is beveled at the end (fig. 1, *e*). Only one occurs in each parapodium, and it lies at the dorsal surface of the seta bundle.

The holotype (U.S.N.M. No. 19599) and paratypes were collected at Station 8835, off Cape Henry, Va., in 20 fathoms, July 9, 1920.

MYRIANA CIRRATA, new species

Figure 2

This new form is assigned to the genus *Myriana* because of its flat leaflike dorsal cirri and the absence of ventral ones. All specimens are variable in length; one 4 mm. long has a body width of 0.3 mm.

In the holotype the prostomium (fig. 2, *a*) is rounded anteriorly and has no trace of any palps. The eyes are large, those of the same side in contact; the anterior ones are a little farther apart than the posterior; lenses prominent. The median tentacle is the longest, reaching a length several times that of the prostomium. The lateral tentacles are similar to this in form but are shorter. The dorsal

tentacular cirri are shorter than the tentacles but in other respects agree with them in appearance. The ventral tentacular cirri (not shown in the figure) are short, and though a little longer than the dorsal cirri they resemble them in form.

The second somite has a tuft of compound setae and a long dorsal cirrus, which is similar to the tentacles in form but longer than they are. All other dorsal cirri are short, oval, and leaflike in outline. The pygidium (fig. 2, *b*) has the form of a thin, flattened lip, with a rounded posterior margin broader than the terminal somites. The anal cirri are shaped like the dorsal ones but are larger than any of them. Because the dorsal cirri of the shortened posterior somites are smaller than those farther forward, the anal cirri are very prominent.

The esophagus is narrow, has very dark-brown walls, and is bent on itself so that although the loop extends into somite 3, it opens into the pharynx in somite 2. The pharynx extends through about three somites, and the remainder of the canal behind this is very broad.

The parapodia are without ventral cirri. In the setal portion are a presetal and a postsetal lobe with the tuft of setae protruding between them. These lobes are approximately equal in size and are rounded at their apices. The setae have very minute terminal joints (note the scale of the drawing in Figure 2, *c*), each roughly triangular in outline with a slender terminal and a much stouter subterminal tooth.

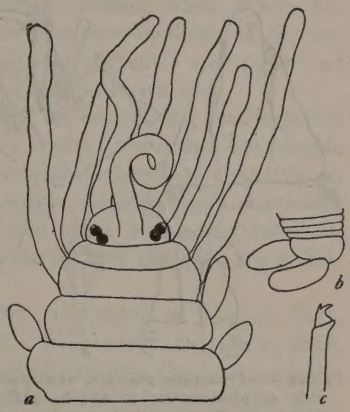

FIGURE 2.—*Myriana cirrata*, new species: *a*, Anterior end, × 68; *b*, pygidium, × 68; *c*, seta, × 563

The holotype (U.S.N.M. No. 19603) was taken at Station 8828, July 8, 1920, near the mouth of Chesapeake Bay, in 16.47 meters. Others were taken at Stations 8826, 8827, 8840, 8829, and 8985 in the same locality in depths varying from 18.03 to 45.75 meters, July 8 to August 22, 1920, and April 2, 1921.

Family SPIONIDAE

PRIONOSPIO PLUMOSA, new species

Figure 3

The largest specimens in the collection were 15 mm. long, but in none was the posterior end well preserved, so that they may have been longer when alive. The greatest width near the anterior end was 0.6 mm.

The holotype has the basal portion of the prostomium (fig. 3, *a*) rounded and carries two pairs of reddish eyes, those of the anterior pair much farther apart than are the posterior. Just in front of the anterior eyes the prostomium narrows, and for a distance of a little more than twice its width it is continued forward as a parallel-sided lobe with rounded apex. The first somite is narrow on the dorsal surface (the boundary between this and the prostomium is not clearly marked off in my material), but laterally and ventrally it is continued forward in the form of an inverted hood underlying the prostomium for nearly its entire length and folding laterally so as almost entirely to obliterate it in a side view. When extended, the proboscis is 2-lobed at the apex extending only for a short distance beyond the end of the prostomium (fig. 3, *c*).

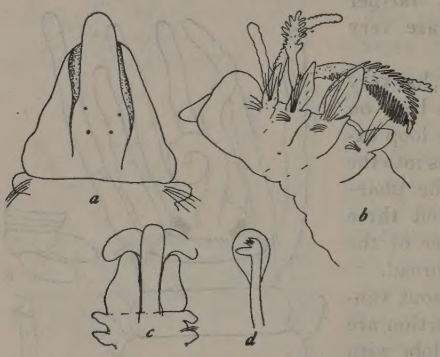

FIGURE 3.—*Prionospio plumosa*, new species: *a*, Dorsal view of prostomium, × 45; *b*, side view of prostomium, × 20; *c*, protruded pharynx, × 20; *d*, seta, × 500

I was unable to find any trace of tentacular cirri on any of this material.

The first setigerous somites have each a flattened cirruslike lobe posterior to the dorsal tuft of setae. From the first to the third there is gradual increase in size of these lobes and then a gradual decrease, so that they practically disappear in the region of setigerous lobes 8 to 10. Similar but smaller lobes lie posterior to each seta tuft in the neuropodium. (Fig. 3, *b*.)

In this material the structure of the gills varies much in different specimens. So far as I can determine, the number should be three, but fewer are present in some cases, apparently because of loss. A fully developed gill has a naked base and a heavy central axis, carrying on either side a row of filaments, the longest filaments being in the middle of the series. The gills shown in Figure 3, *b*, represent three stages in gill development. First there is a slender tentaclelike process with crenulated margins from which later filaments grow out, as in the second of the gills figured, and finally these develop into the conditions shown in the third gill. The most profusely branched gill I have seen was the first pair in a specimen that retained no others. Apparently, therefore, the first gill does not always retain the tentaclelike character shown in the figure.

In anterior somites the setae of the dorsal tuft are all very long and slender and much curved, the longest lying at the top of the tuft and reaching beyond the base of the gill. Those of the ventral tuft are shorter than the dorsal but resemble them in other respects, but they curve in the opposite direction. On the ninth setigerous somite, hooded setae appear accompanied by slender simple ones. These hooded setae have a double hood, the double character, however, not being visible except when seen in full face. Each has a large subterminal tooth with a row of three much smaller ones beyond it. (Fig. 3, *d*.) Toward the posterior end of the body the dorsal setae are very few in number and are much elongated, some resembling those of the notopodium in the anterior somites, while others are hooded and resemble in form those of the neuropodium of the anterior somites. None of this material was sufficiently well preserved to allow of any accurate description of the posterior end.

In the form of the prostomium with its underlying prolongation from the under side of somite 1, this species resembles *Streblospio benedicti* of Webster, but lacks the prominent hoodlike structure on the dorsal surface of the second setigerous somite, which characterizes that species. The dorsal cirri are much more prominent in *P. plumosa*, while in *Streblospio* the margins of the gills are crenulated but never lobed.

The holotype (U.S.N.M. No. 19598) was taken at Station 8881, October 19, 1920, while other specimens were taken at Stations 8848, 8875, 8876, 8878, 8882, and 8887, ranging through the lower middle bay from the mouth of the Patuxent River to the mouth of the Rappahannock River, in depths of from 7.32 to 47.58 meters, August 22 to October 19, 1920.

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